

# **ATTACHMENT 1**

## **DECLARATION OF RICHARD A. CRAIG**

I, Richard A. Craig, hereby declare as follows:

1. My name is Richard A. Craig, and I am Director of Engineering and Operations Support at Verizon Wireless, Inc. ("Verizon Wireless"). I have been employed at Verizon Wireless for 11 years. My responsibilities include ensuring network compliance with Federal, state and local regulations and providing design standards and oversight for network building projects. In this capacity, I have direct responsibility for management of the functional team that works on E911 Phase II deployments and compliance with Section 20.18 of the Commission's rules. I have personal knowledge of the accuracy issues presented in this proceeding and have directed the company's efforts to develop, test, and refine, to the extent possible, the E911 Phase II technical solutions employed by the network for locating emergency callers.
2. This declaration is intended to support the Comments filed by Verizon Wireless in Part A of the above-captioned proceeding. Specifically, I support the conclusion that PSAP-level compliance with the FCC's accuracy standards is not technically feasible in all PSAPs. As such, Section 20.18(h) should not be amended to specify compliance within the PSAPs' boundaries. Verizon Wireless selected and deployed the most accurate solution system commercially available, Assisted GPS ("AGPS"). Despite the high degree of accuracy this solution is capable of achieving, it faces challenges in some environments and may not yield, on

average, location results strictly within the 50 meter/150 meter standards at the PSAP-level.

3. Section IIB of the Verizon Wireless Comments at pages 16-20 correctly explains that the high degree of accuracy that can be achieved from an AGPS solution requires line-of-sight visibility between the caller's handset and at least three GPS satellites. Moreover, OET Bulletin 71 suggests a limited window of 30 seconds during which the system must acquire information, calculate location, and provide an accurate fix to the PSAPs. PSAPs prefer to receive location information as quickly as possible in order to facilitate rapid emergency response.<sup>1</sup> Failing line-of-sight visibility of enough satellites, the Verizon Wireless network devolves to less accurate solution sources, all of which use TDOA ranging measurements between cell towers and the handset to triangulate location, either in combination with the few line-of-sight satellite inputs received or exclusive of any input by the satellites. TDOA measurements are limited by the number and configuration of available towers and the presence of obstructions to the RF signal propagation from towers that will either prevent or introduce timing delays and preclude a high degree of accuracy.
4. The prevalence of these challenges make it infeasible for Verizon Wireless to fairly meet the FCC's accuracy standards at all PSAPs. Some PSAPs present challenged terrain and environments where the technology, through no fault of the carrier, will not be able to perform to the desired accuracy. Some PSAPs are

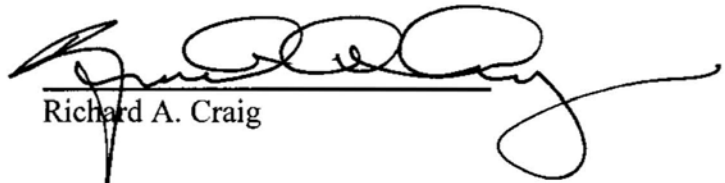
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<sup>1</sup> In fact, the Joint Initial Comments of the Texas 9-1-1 Alliance and the Texas Commission on State Emergency Communications in Part B of this proceeding supporting even faster acquisition of Phase II location data to enable calls to be routed to the appropriate PSAP based on a latitude and longitude information rather than cell tower information. Comments at page 8.

small and will have a concentration of challenging environments, as explained in Section II.C. at pages 21-22 of the Verizon Wireless Comments.

5. In my role with Verizon Wireless, I proactively work on ways to optimize the E911 Phase II solution. At my direction, Verizon Wireless has taken steps to enhance, to the extent possible, the performance of its AGPS solution. However, I cannot state or foresee when Verizon Wireless will be able to meet the type of mandate contemplated by the FCC's tentative conclusion in this proceeding.

I declare under penalty of perjury that the statements made are true and correct to the best of my knowledge and belief.



Richard A. Craig

Executed: August 30, 2007